WHAT IS CLAIMED IS:

1. A method for measuring a marker of clinical or sub-clinical inflammation or irritation of mammalian skin, comprising the steps of:

   (a) collecting secretions from the surface of the skin using a non-invasive collection procedure, said non-invasive collection procedure utilizing a non-invasive collection device; and

   (b) analyzing the level of at least one eicosanoid in the secretions collected from the skin surface by said device.

2. The method of claim 1, wherein said non-invasive collection device is a device selected from the group consisting of uncoated non-porous plastic film, an uncoated microporous plastic film, an adhesive-coated nonporous plastic film, an adhesive-coated microporous plastic film, a woven fibrous web, a non-woven fibrous web, a natural sponge, a synthetic sponge and a plastic foam.

3. The method of claim 2, wherein said non-invasive collection device is an adhesive-coated microporous plastic film.

4. The method of claim 1, wherein said eicosanoid is prostaglandin.

5. The method of claim 4, wherein said prostaglandin is prostaglandin E_2.

6. The method of claim 1, wherein the level of eicosanoid is analyzed using at least one immunoassay technique selected from the group consisting of RIA, EIA and ELISA.

7. The method of claim 1, wherein the level of eicosanoid is analyzed using analytical techniques selected from the group consisting of GC/MS, HPLC, and TLC.

8. The method of claim 1, further comprising the step of analyzing the level of at least one cytokine in the secretions collected from the surface of said skin by said device.

9. The method of claim 8, wherein said cytokine is interleukin-1α.

10. A method of claim 8, wherein said cytokine is interleukin-1α and said eicosanoid is prostaglandin E_2.

11. A method for measuring sub-clinical or clinical inflammation or irritation of mammalian skin from exposure of said skin to a topical skin care product, exposure to an external aggression or combinations thereof, said method comprising the steps of:

(a) collecting secretions from the surface of said skin using a non-invasive collection procedure comprising a non-invasive collection device;

(b) measuring a baseline level of eicosanoid in the secretions collected from the surface of said skin;

(c) exposing said skin to a topical skin care product, to an external aggression or combinations thereof;

(d) collecting secretions from the surface of said skin using a non-invasive collection device after step (c);

(e) measuring the level of eicosanoid in the secretions collected from the surface of said skin after step (c); and

(f) comparing the level of eicosanoid determined in step (e) with the level of eicosanoid determined in step (b).

12. The method of claim 11, wherein said non-invasive collection procedure comprises using a non-invasive collection device, said noninvasive collection device selected from the group consisting of an uncoated non-porous plastic film, an uncoated microporous plastic film, an adhesive-coated nonporous plastic film, an adhesive-coated microporous plastic film, a woven fibrous web, a non-woven fibrous web, a natural sponge, a synthetic sponge and a plastic foam.

13. The method of claim 12, wherein said non-invasive collection device comprises an adhesive-coated microporous plastic film.

14. The method of claim 11, wherein said eicosanoid is prostaglandin.

15. The method of claim 14, wherein said prostaglandin is prostaglandin E_2.

16. The method of claim 11, wherein the level of eicosanoid is measured using at least one immunoassay technique selected from the group consisting of RIA, EIA and ELISA.

17. The method of claim 11, wherein the level of eicosanoid is measured using analytical techniques selected from the group consisting of GC/MS, HPLC, and TLC.

18. The method of claim 11, further comprising the step of measuring the level of at least one cytokine in the secretions collected from the surface of said skin by said device before and after step (c).

19. The method of claim 18, wherein said cytokine is interleukin-1α.

20. A method according to claim 18, wherein said cytokine is interleukin-1α and said eicosanoid is prostaglandin E_2.

21. A method according to claim 11, wherein step (d) is performed about 24 hours after step (c).

22. The method of claim 11, further comprising the step of:

measuring the level of protein in the skin secretions and normalizing the level of eicosanoid to the level of protein.

23. A kit for measuring a marker of sub-clinical or clinical inflammation or irritation of mammalian skin, said kit comprising:

(a) a non-invasive collection device for collecting secretions from the surface of said skin; and

(b) an immunoassay for measuring levels of eicosanoid in said secretions.

24. The kit of claim 23, wherein said non-invasive collection device is a device selected from the group consisting of an uncoated non-porous plastic film, an uncoated microporous plastic film, an adhesive-coated non-porous plastic film, an adhesive-coated microporous plastic film, a woven fibrous web, a non-woven fibrous web, a natural sponge, a synthetic sponge and a plastic foam.

25. The kit of claim 24, wherein said non-invasive collection device comprises an adhesive-coated microporous plastic film.

26. The kit of claim 23, wherein said immunoassay is selected from the group consisting of RIA, EIA and ELISA.

24. The kit of claim 23, wherein said immunoassay is an ELISA.

25. The kit of claim 23, wherein said eicosanoid is prostaglandin.

26. The kit of claim 25, wherein said prostaglandin is prostaglandin E_2.

27. The kit of claim 23, wherein said immunoassay comprises an antibody for said eicosanoid and a multi-well plate for conducting said immunoassay.

28. The kit of claim 27, wherein said immunoassay further comprises an enzyme conjugated with said eicosanoid or with said antibody.

29. The kit of claim 28, further comprising a substrate for said enzyme.

30. The kit of claim 23, further comprising an immunoassay for further measuring levels of a cytokine in said secretions.

31. The kit of claim 30, wherein said cytokine is interleukin-1α.

32. The kit of claim 30, wherein said eicosanoid is prostaglandin E_2 and said cytokine is interleukin-1α.

33. The kit of claim 23 wherein said kit is used to measure the sub-clinical or clinical inflammation or irritation of mammalian skin due to exposure of said skin to at least one topical skin care product, exposure to at least one external aggression or combinations thereof.